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Strengths and Weaknesses of Atlanta's Metalworking Industry

PROJECT No B-226

PREPARED FOR THE "FORWARD ATLANTA" COMMITTEE
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INDUSTRIAL DEVELOPMENT BRANCH/ENGINEERING EXPERIMENT STATION/GEORGIA INSTITUTE OF TECHNOLOGY

Project B-226

STRENGTHS AND WEAKNESSES OF ATLANTA'S METALWORKING INDUSTRY

Prepared for

FORWARD ATLANTA
The Atlanta Chamber of Commerce

by

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Foreword

Like other reports produced by the research completed during the first year of the "Forward Atlanta" campaign, this evaluation of the Atlanta area's metalworking complex points up weaknesses and problems which require action if certain development potentials are to be realized.

At the same time, it has provided a basis for identifying a number of specific manufacturing opportunities. The first of these, plumbing fixture fittings, has already been the subject of the report which immediately preceded this in the series of technical studies which have come out of the research program.

It is hoped that further analysis and action will follow this report so that Atlanta's metalworking weaknesses will be remedied and so that the undeveloped potentials can be exploited in the months and years ahead.

Comments or questions regarding the study are invited.

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Summary

Despite a very large market in Metropolitan Atlanta and in the Southeast for metal products, there is not a correspondingly large metalworking industry.

Although it is not a major metalworking center, the Atlanta Metropolitan Area is the metalworking capital of Georgia. There is within this area over 47 per cent of the state's metalworking companies and over 61 per cent of the state's employment in these industries.

Since 1958 the number of metalworking plants in Atlanta has increased from 264 to over 300. During the same period the employment in these plants has expanded from 32,200 to more than 33,500.[1/]

The southeastern region is the basic market for metal products manufactured in the Atlanta area. However, several manufacturers distribute nationally, even internationally, from Atlanta. An excellent transportation system helps these local manufacturers compete in other sections of the United States.

Atlanta, itself is an important wholesale market for metal products, with over $2 billion in sales annually. The city stands very high nationally in the wholesaling of such products as automobiles, air conditioning and refrigeration equipment, industrial machinery, professional equipment, and plumbing and heating equipment. However, only the first of these is made in the Southeast in quantity.

Despite the large market for metal products in Atlanta and in the Southeast, Atlanta does not compare favorably in metalworking employment with other large cities. Every city larger than Atlanta except Washington has more metalworking than Atlanta. There are also 18 cities in the United States with a smaller population than Atlanta which employ more workers in the metal trades.

Atlanta's metalworking employment is overbalanced toward the transportation industries. Almost 60 per cent of the metalworking labor force works with either aircraft or motor vehicles. The skilled labor in the area is naturally attracted to these higher paying industries. This gravitation, coupled with an existing skilled labor shortage, creates a difficult problem for other metalworking industries.

1/ Georgia Department of Labor.

Another deficiency is in metalworking service operations. To compensate for this inadequacy a few companies have introduced special departments to do their own service work. Others must rely on northern plant facilities.

The availability of engineers and technicians in the Atlanta area provides a strong attraction for firms in the metalworking field. However, the technical manpower situation will remain essentially a potential attraction so long as the shortage of skilled workers exists. Through an intensive training program it may be possible to reduce the severity of the shortage of skilled workers by more effective use of the abundance of trainable unskilled and semi-skilled labor. However, this alternate approach to staffing a metalworking plant would require a sophisticated training and promotional effort.

Organized metal workers are becoming more common in the metropolitan area. This unionization can be expected to increase as the industries continue to expand.

There are a number of assets to help present Atlanta as a desirable city in which to locate metalworking plants. They are:

1. a large market with limited competition,
2. raw materials in or near Atlanta,
3. a comparatively low average wage level,
4. abundant unskilled and semi-skilled labor,
5. excellent transportation facilities for goods and people, and
6. a continuing supply of engineers and technicians.

INTRODUCTION

The purpose of this report is to evaluate the metalworking complex of the Atlanta Metropolitan Area by inventorying existing metalworking facilities, comparing Atlanta's metalworking companies and employment with those of other cities, and presenting important factors which affect the manufacture of metal products in the area.

For its use in this study the term "metalworking" has been given the broadest possible definition. Included are all operations performed in creating a finished metal product from the ore as it begins at the blast furnace. These metal products may be in the form of machinery or as finished durable goods to be used directly by the consumer. A listing of all the SIC number groups included is found in Appendix 2.

The background data and material for this report were derived from interviews and discussions with the management and employees of over 50 major metal manufacturing companies in the Atlanta area, representing over 60 per cent of the area metalworking employment, and from studies of recent statistical metalworking directories and other publications.

The facts and opinions derived, help point up the strengths and weaknesses of Atlanta's metalworking complex and at the same time demonstrate opportunities for growth.

ATLANTA'S COMPARATIVE POSITION

Atlanta does not rank high in metalworking employment compared with other cities in the United States. This is not a typical position for Atlanta, which although 24th in population nationally,[1/] usually stands much higher than 24th in any analysis connected with business endeavor. It ranks 9th in the nation in tonnage of air freight handled, for example.

Nevertheless, in metalworking employment Atlanta ranks 40th in the nation. Every city larger than Atlanta except Washington, D. C. has more metal workers than Atlanta; 18 cities with less population than Atlanta also have more metalworking employment.

This low status stands out even more when one realizes that the city rates high, often very high, in the sale of metal products. For example, Atlanta has the 9th[2/] highest wholesale sales in the nation of automobiles and of air conditioning and refrigeration equipment, 10th highest in industrial machinery and professional equipment, and 13th in plumbing and heating equipment. Despite this large market (Table 1), automobiles are the only one of these products made in any quantity in the Southeast.

Table 1
Atlanta's Annual Wholesale Sales
of Selected Metal Products

Automobiles and Other Motor Vehicles	$ 426,427,000
Industrial Machinery	$ 150,586,000
Plumbing and Heating Equipment	$ 60,859,000
Professional Equipment	$ 48,045,000
Air Conditioning and Refrigeration Equipment	$ 30,089,000

Source: Census of Business, 1958

1/ U. S. Census

2/ Census of Business, Wholesale Trade, 1958

Of the cities smaller than Atlanta with more metalworking employment, some have as little as one-third the population of Atlanta. Only one of these smaller cities is in the South. Table 2 ranks the major metalworking cities by population and by metalworking employment.

In some cases, the strong metalworking regions are heavily dependent on only one type of industry, e.g., Gary, Indiana, where 80 per cent of the metalworking employment is found in blast furnaces and steel works; Wichita, Kansas, with 86 per cent in aircraft; and Flint, Michigan, where 64 per cent is in the automotive field.

When there is a large concentration of one industry in an area, one of the three industry types (steel, aircraft or automotive) is usually involved. Possible exceptions to this would be Rochester's photographic industry and Houston's oil-field machinery.

Atlanta also has a large percentage of its metalworking employment confined to one industry, since the Metropolitan Area has 35 per cent in aircraft.

There are, on the other hand, seven of the 18 smaller cities with a much more favorable balance among their metalworking industries. None of these cities has more than 20 per cent of the workers in any one industry. These areas have more stability and are less likely to be affected by individual industry slumps. A percentage breakdown of these areas may be found in Appendix 2.

The locations of the 40 largest metalworking cities in the United States (of which Atlanta is the smallest) are shown on Map 1. It is worth noting that there are only two cities in the entire Southeast in this group. Also noticeable is the heavy concentration of cities with a population of less than one million people. With the exception of Wichita and Birmingham, all of these smaller cities are located toward the Northeast.

Over 47 per cent of Georgia's metalworking companies manufacture in Atlanta, and these Atlanta plants employ 61 per cent of the state's metal workers.

The metal manufacturing companies in the Atlanta area increased in number from 264 in 1958 to 300 in 1960. For the same years the labor force employed in these metalworking industries rose 2 per cent per year, from 32,200 to 33,500.[1/]

1/ Employment Security Agency, Georgia Department of Labor.

Table 2

Major Metalworking Metropolitan Areas in the United States

City	Rank in Population	Rank in Metalworking Employment
New York	1	4
Los Angeles	2	1
Chicago	3	2
Philadelphia	4	8
Detroit	5	3
San Francisco	6	13
Boston	7	10
Pittsburgh	8	5
St. Louis	9	20
Washington, D. C.	10	N. A. *
Cleveland	11	6
Baltimore	12	14
Newark	13	7
Minneapolis-St. Paul	14	29
Buffalo	15	16
Houston	16	37
Milwaukee	17	9
Paterson-Clifton-Passaic	18	(included with Newark)
Seattle	19	23
Dallas	20	22
Cincinnati	21	15
Kansas City	22	39
San Diego	23	38
Atlanta	24	40
Indianapolis	33	25
Dayton	34	18
Columbus	36	31
Birmingham	40	28
Rochester	43	21
Gary	45	24
Syracuse	47	32
Hartford	48	12
Lancaster-York	49	34
Youngstown	51	19
Toledo	57	30
Flint	63	17
Grand Rapids	67	26
Wichita	69	36
Bridgeport	72	11
Worcester	75	35
Lansing	82	27
South Bend	(over 100)	33

* Not Available

MAP 1
LARGEST METALWORKING AREAS IN THE U.S.

Discussions with metalworking industry management indicate that employment has increased since 1960. Many of the companies have expanded operations. Of the 50 companies interviewed for this report, 23 have recently added new facilities or intend to expand in the near future.

MARKET AREA SERVED

The southeastern area is primarily the market for metal products manufactured in Metropolitan Atlanta. Atlanta itself is an important wholesale center for metal products with sales above $2 billion annually. For the most part, Atlanta's metalworking complex is not extensive or sufficient enough to satisfy the needs of the southern region. The manufacturing deficit is filled from the metalworking areas of the Midwest and Northeast.

As indicated above, Atlanta is the wholesaling point for more than $2 billion worth of metal products annually. In the five categories of products listed in Table 1 (see page 4) there are $750 million in sales, whereas there is little or no manufacturing in the Atlanta area in four out of five of the categories. These four categories, representing $300 million dollars in sales, are composed of products made outside the Atlanta area, and for the most part outside the South.

There are, however, many products produced in Atlanta for national consumption. The Atlanta area has home offices and main production plants of a number of major metal-using manufacturing companies (e.g., Auto-Soler Company, Shower Door Corporation of America, Scripto, Inc., and The Warren Company). These companies market and distribute their merchandise throughout the country.

Atlanta also hosts branch plants of many national concerns. Some of the divisions manufacture only a limited number of their parent company's products (i.e., Reynolds Aluminum Supply Company, and Jones and Laughlin Steel Corporation). These manufacturing plants sell and ship nationally, although their production is narrow in scope.

On the debit side, there are many types of metalworking manufacturing missing or almost non-existent in the Southeast. There is a definite market for these products, but at the present time these industries are not well represented in Atlanta. These types of metalworking industries are shown in Table 3.

Table 3

Atlanta's Metalworking Gaps

SIC	
336 & 9	Non-ferrous foundries, miscellaneous primary metal industries
345	Screw machine products, nuts, bolts, rivets, washers
347	Coating, engraving, and allied services
348	Fabricated wire products
351	Engines and turbines
354	Metalworking machinery and equipment
357	Office computing and accounting machines
362	Electrical industrial apparatus
363	Household appliances
364	Electric lighting and wiring equipment
366	Communication equipment
367	Electronic components and accessories
38	Professional, scientific and controlling instruments; photographic and optical goods, watches and clocks.

MAJOR METALWORKING INDUSTRIES

The Atlanta Metropolitan Area does not have a balanced metalworking complex. Atlanta metalworking is strong in the manufacturing of only three products: motor vehicles, aircraft, and fabricated structural metal products.

Motor Vehicles

The only function of the motor vehicle plants in the Atlanta area is to assemble automobiles. Parts are shipped to Atlanta from the Midwest. After assembly the vehicles are painted, surface finished, and inspected here. The small pieces of metalworking equipment at these plants are used for routine maintenance, repair of production equipment, and occasional jig and fixture work. Over 24 per cent of Atlanta's metal workers are employed at these plants.

Aircraft

The aircraft industry occupies a unique position in the area's metalworking make-up. The whole industry consists of only one manufacturing plant (although there is a significant employment elsewhere in Atlanta in aircraft maintenance). It accounts for 35 per cent of Atlanta's employment in metals.

The industry is not an integral part of Atlanta's metalworking complex. It is more closely tied to California than to Georgia, since a substantial portion of its purchases is made there. Few purchases are made in Georgia. All in all the industry has added little to and received little from other Atlanta metalworking organizations.

An excellent opportunity exists in this case for Atlanta to supply both the manufacturing and the maintenance markets.

Fabricated Structural Metal Products

The fabricated structural metal products industry ranks third, with 5 per cent of the metalworking employment in the area, and probably forms the real foundation of Atlanta's metalworking activities. These fabrications are used both as end products and also as secondary raw materials in the manufacturing of other products.

The complete breakdown of the Metropolitan Area's metalworking industry is shown with approximate employment figures in Table 4.

METALWORKING SERVICES

There are metalworking operations which are sometimes performed by a company other than the product manufacturer. The services involved usually fall under one or more of the following categories:

1. casting,
2. machining,
3. heat treating,
4. forming,
5. fabricating,
6. surface finishing.

This work may be subcontracted to a job shop or other firm because:

a. the manufacturer does not have the facilities or skilled labor,

b. the work is too time-consuming to fit into a production schedule,

c. there would not be enough of the work to keep the required facilities profitably occupied.

Most kinds of metalworking service are available. However, the consensus is that satisfactory service is in short supply. This belief is supported by the fact that several companies have installed captive service operations that they would have preferred contracting for. Others obtain their services in the North.

Complaints about available services seem to be of three kinds:

1. those finding fault with quality,
2. those finding fault with the quantity of service available, and
3. those finding fault with price.

The first type of complaint probably results from the lack of sufficient market in the area for high quality work. The third is likely connected with the second type of complaint and results ultimately from the fact that for the types of service involved there is a market which justifies more competition.

Dissatisfaction has been particularly expressed with plating and die making, although no unanimity of opinion exists. The varying requirements

Table 4

Standard Industrial Classification Groups and

Employment in Each for the Atlanta Metropolitan Area

SIC		Employment (in hundreds)
25	Metal furniture, partitions, shelving and lockers	15
331	Blast furnaces, steel works, rolling and finishing mills	16
332	Iron and steel foundries	6
335	Rolling, drawing, extruding of nonferrous metals	11
341	Metal cans	6
342	Cutlery, hand tools, and general hardware	1
343	Heating apparatus and plumbing fixtures	2
344	Fabricated structural metal products	17
346	Metal stampings	2
347	Coating, engraving, and allied services	2
349	Miscellaneous fabricated metal products	5
352-3	Farm, construction, mining and materials handling machinery and equipment	6
354	Metalworking machinery and equipment	2
355	Special industrial machinery	6
356	General industrial machinery and equipment	5
358	Service industry machines	9
361	Electrical transmission and distribution equipment	12
369	Miscellaneous electrical machinery, equipment and supplies	5
371	Motor vehicles and equipment	81
372	Aircraft and parts	118
373	Ship and boat building and repairing	1
39	Miscellaneous manufacturing industries	17

of the firms interviewed may account for the differences.

The further addition of these services to the existing facilities in the area would not alleviate the condition. The skilled labor necessary for tool and die work is scarce in Atlanta. The labor is basically immobile and must be trained locally.

MANPOWER

Skills

Technicians and engineers can be recruited locally, with the Georgia Institute of Technology and Southern Technical Institute continuing sources of engineering and technical graduates. Southern Technical Institute graduates approximately 280 technicians annually, while Georgia Tech grants approximately 1,250 engineering and science degrees each year.

There is also an abundance of unskilled labor in Atlanta, much of which results from migration from the rural areas of Georgia and from other states in the Southeast.

On the other hand, there is no abundance of skilled labor. Skilled labor is not plentiful anywhere but it is probably in shorter supply in Atlanta than in most places. No skilled metalworker needs to be out of work in the Atlanta area. While this shortage exists, the availability of engineers and technicians will be more potential than actual except for those companies willing to develop the needed skills in their employees.

For such companies this shortage of skills is to some degree offset by an abundance of unskilled labor. This labor, like business, is magnetically attracted to Atlanta, forming a working force pool from which the entire industry may draw. The city gains 30,000 people each year. Because this labor pool is so large, industry can be very selective in hiring, selecting for training those with greatest aptitudes.

Officials of the Atlanta metalworking companies interviewed say that the highest percentage of their labor comes from the outlying rural areas. The hourly wage earnings of these workers are considerably lower in Atlanta than in other metalworking cities, yet many national manufacturers with metropolitan area plants have reported greater labor productivity in the South than in other sections of the country. In 1961, of all the metalworking cities,

only the Lancaster-York area had a lower average hourly earnings rate in the manufacturing of metal products. The range for these cities was from 1 per cent lower to 48 per cent higher than Atlanta. Average hourly earnings and percentage differences are shown in Table 5. Atlanta manufacturers received more working hours per wage dollar than their northern counterparts.

In some cases, manufacturers make their own highly specialized machines. To operate this equipment, companies of this type find it advantageous to hire unskilled labor. The worker may then be trained in company policy and procedure while he is learning the operations of the particular machines. Since all new employees must be company indoctrinated, promotions usually occur from within. This tends to give the worker greater incentive and a feeling of more stability. These companies may also realize savings in labor costs by hiring and training unskilled workers.

However, the companies with specialized equipment are not the norm. Most of the metal manufacturing in the area is performed with the more common machinery and facilities. These metal manufacturers would prefer hiring skilled workers if such labor were available. The limited skilled labor in the area gravitates toward the highest paying companies. A number of manufacturers claim that the skilled labor supply in Atlanta varies inversely with the aircraft industry's needs. True or not, most companies must hire the unskilled for the bulk of their manpower, and rely upon in-plant and on-the-job training.

Unions

The Atlanta metalworking industries are not as highly unionized as those in the large northern manufacturing cities. Of the 50 companies visited, only half are organized. Three plants which had been unionized at one time are now unaffiliated. At the same time, employees of a few firms have recently voted for union representation. There is generally a favorable relationship between management and the unions in metalworking companies in the Atlanta area.

Union members in the metalworking industries far outnumber the non-members. This majority is due to the fully organized aircraft industry in the area.

As the region's metalworking facilities continue to grow, and as some skilled labor is attracted from the North, the region can be expected to become progressively more unionized.

Table 5

Wage Rates of the Major Metalworking Areas

Area	Average Hourly Earnings	Percentage Difference from Atlanta	Area	Average Hourly Earnings	Percentage Difference from Atlanta
Youngstown	$3.04	+48	Chicago	$2.55	+24
Flint	3.00	+46	Cincinnati	2.54	+23
Detroit	2.97	+44	Columbus	2.54	+23
San Francisco	2.90	+41	Indianapolis	2.54	+23
Pittsburgh	2.86	+39	Gary	-- *	
Dayton	2.85	+39	Grand Rapids	2.52	+22
San Diego	2.84	+38	South Bend	-- *	
Lansing	2.76	+34	Baltimore	2.50	+21
Seattle	2.76	+34	Bridgeport	2.47	+20
Toledo	2.75	+34	Kansas City	2.47	+20
Cleveland	2.74	+33	Philadelphia	2.48	+20
Buffalo	2.73	+33	Syracuse	2.46	+19
Los Angeles	2.70	+31	Hartford	2.45	+19
Milwaukee	2.70	+31	Newark-Jersey City	2.44	+19
Houston	2.68	+30	Boston	2.36	+15
Birmingham	2.61	+27	New York	2.34	+14
St. Louis	2.61	+27	Worcester	2.29	+11
Minneapolis-St. Paul	2.58	+25	Dallas-Fort Worth	2.20	+ 7
Rochester	2.58	+25	Atlanta	2.05	
Wichita	2.58	+25	Lancaster-York	2.02	- 1

* Not Available

Source: Department of Labor, Employment and Earnings, November 1961.

LOCATION AND CLIMATE

An important factor which should make Atlanta attractive to a growing metalworking industry is the city's geographical location. Referred to as "the hub of the South," Atlanta is situated in the heart of the southeastern states and is easily accessible from all directions.

In the present space and missile age much is being heard of the National Aeronautics and Space Administration (NASA) and the "space crescent" area it is developing. This "crescent" has for apexes Cape Canaveral, Florida and Houston, Texas. Participating agencies between these points are located at Eglin Air Force Base, Florida; George C. Marshall Space Flight Center, Huntsville, Alabama; in Hancock County, Mississippi, and at New Orleans, Louisiana. Atlanta's proximity to all these locations places it in an ideal position to be a supporting city for the NASA program. The relative location of Metropolitan Atlanta also makes a fine liaison center between the "crescent" and the extensive metalworking complex of the Northeast. Atlanta is the only city which can offer one plane air transportation direct to all aerospace cities in the "space crescent." Non-stop service can be had to all but two.

Another positive factor which enhances the desirability of an Atlanta location is the climate. The lack of temperature extremes (with a 61° mean annual temperature) and the low humidity attributable to the high altitude contribute toward making the area one of the most comfortable in the United States. Various national metal companies with branches throughout the country indicate that absenteeism stemming from climate is near its lowest at the Atlanta plants.

SOURCES OF RAW MATERIALS

All of the high volume ferrous metals are made near or in Atlanta. Special steels and stainless steels must be brought in from the North, but quantities of all metals are available in Atlanta's warehouses, which are well stocked.

For non-ferrous metals like aluminum and copper there are also many adequate sources of supply, both from prime producers and distributors. There is no freight cost problem in buying aluminum and copper from a mill. Freight

for all shipments over 500 pounds on non-ferrous metals is prepaid by the producer.

The metalworking companies that use castings, and yet do not have the facilities to do this operation themselves, find there are a number of foundries in the area producing good work.

Secondary raw materials like bolts and hardware, when used in quantity or specialized form, are usually purchased from the East or Midwest. If a metalworking company is not a quantity user, it may use a small local manufacturer or an Atlanta distributor as a source.

A central location is highly advantageous for plants using scrap as their principal raw material (e.g., National Lead Company and Atlantic Steel Company). The used metals are collected and sorted by one of the numerous scrap metal dealers in the Metropolitan Area. When enough material has been accumulated it can then be delivered by rail or truck to the manufacturer. The Atlanta region has been found to be a good source for metal scrap.

Companies with melting facilities, using pig metal as raw material, are able to reuse their own scrap (e.g., American Art Metal Company). Any manufacturer with a foundry operation is in a position to use secondary metal.

A few firms, either large users of raw materials (Crown Cork and Seal Company) or those affiliated with a mill (Reynolds Aluminum Supply Company), return their scrap to the prime producers.

Metals are also imported into the area from Europe. Some manufacturers who use both imported and domestic aluminum claim the imported product is cheaper and more easily anodized.

TRANSPORTATION FACILITIES

Transportation of Goods

Atlanta is the transfer point for the Southeast. Items being shipped out of the region from surrounding towns are usually first shipped to Atlanta and then transshipped. In a like manner, things being shipped into the region are usually shipped first to Atlanta.

Therefore, since almost any community can ship directly to Atlanta but can not ship directly to most other communities in the area, services have tended to concentrate in the city that can save them a day or more in transport time.

Metalworking manufacturers in Atlanta claim they can give special four day delivery service to West Coast customers while ordinary service takes five days. By the same token, a freight forwarder gives second day store door delivery on LCL shipments to Atlanta from New York.

There are 77 common carriers authorized to serve the Atlanta Metropolitan Area. These truck lines travel directly into over 30 states and have connecting links to all the others.

In addition to the motor carriers, the area is also serviced by 13 main railroad lines. These railroads operate directly to 12 neighboring states and from there connect to associate lines.

Many metalworking organizations supplement these transportation facilities by using either company-owned or leased trucks. The companies find leased trucks beneficial when delivering finished products to areas from which they obtain raw materials. By bringing raw materials back to Atlanta a freight savings may be realized.

Although a large percentage of the metalworking companies in the Atlanta area have railroad sidings, there is a preference toward using truck instead of rail for the transportation of raw materials and finished products. Truck-shipped materials may conveniently be brought directly to a loading dock or check-in area. This advantage saves either the receiver or the shipper extra labor costs and additional time. Motor delivery is also faster than rail. On a long haul (e.g., the West Coast) as much as an entire day may be saved. Most of the metalworking companies interviewed feel that these savings more than offset the difference in price.

If speedier service is demanded, the Atlanta airport offers outstanding facilities. In 1960 over 12,000 tons of cargo were transported through the airport terminal. This tonnage was sufficient to rank the city 9th in the nation. Its efficient transportation facilities make Atlanta one of the more accessible cities in the country.

Atlanta, however, is not conveniently located near an inland waterway shipping point. The two closest barge ports to the Metropolitan Area are Guntersville, Alabama, and Chattanooga, Tennessee, both of which are more than 100 miles away.

Transportation of People

Atlanta's excellent air transportation facilities are also important to metalworking organizations with national business connections. These companies, whose executive, engineering, and technical personnel act in an intraplant liaison capacity, must depend upon frequent and direct flights to many different sections of the country. Planes from Atlanta offer non-stop service to over 50 American cities. Chicago is 1 1/2 hours away, with flying time to New York, Dallas, and Miami approximately the same.

CONCLUSIONS

Although Atlanta is a huge metal wholesale center and a very large market for metal products therefore exists in Atlanta, metalworking companies have not moved into the city to the extent necessary to supply the market. As a result, Atlanta is not a major metalworking city. Moreover, the two largest sections of Atlanta's metalworking activities -- aircraft manufacture and automobile assembly -- operate almost completely independent of the rest of Atlanta's metalworking activities.

Since most metalworking industries are dependent upon skilled labor, and skilled labor tends to be immobile and slow to migrate, individual companies are reluctant to pioneer new areas. The lack of skilled labor therefore puts Atlanta at a definite disadvantage. There is, however, an available pool of engineers and technicians as well as an abundance of semi-skilled and unskilled labor for assembly line work.

Nevertheless, Atlanta has a number of advantages that should be attractive to metalworking companies generally, and even more that should prove especially attractive to many metalworking industries.

The general advantages are:

1. Market. The South generally is short of metalworking facilities and to a large extent is supplied from the North or even from California. There is, therefore, likely to be less competition for a company in Atlanta than for one in the North. Some dissatisfaction with the prices of metalworking services in Atlanta reflects the restricted competition.

2. Raw Materials. Most raw materials are either made nearby or are delivered freight allowed. The warehouses and mill supply houses are well stocked.

3. Wages. Atlanta's metalworking wages average $1.00 per hour less than those in Youngstown, Ohio, and are next to the lowest among the 42 largest metalworking cities in the United States.

4. Transport. For transportation in all directions Atlanta will have at least one day faster service than other locations in the Southeast. In some cases this advantage may extend to several days.

In addition, certain industries should find the excellent transportation facilities for personnel an outstanding attraction.

Northern companies which suffer from absenteeism and work stoppages due to prolonged inclement weather conditions may also be receptive to the temperate climate enjoyed in the Atlanta area. Lower construction and operating costs are also possible because of favorable weather conditions.

It is the opinion of metalworking management in the Metropolitan Area that non-monetary assets such as cultural, educational, and recreational facilities should be emphasized to round out an "Atlanta package" capable of being sold to one of the many metalworking organizations.

APPENDIX 1

COMPANIES INTERVIEWED IN METROPOLITAN ATLANTA

American Art Metals Company
Apex Metal & Engineering Company
Armco Drainage & Metal Products, Inc.
Atlantic Steel Company
Atlanta Stove Works
Auto-Soler Company
B & C Metal Stamping Company
C & H Air Conditioning Fan Company
E. V. Camp Steel Works
Conklin Tin Plate Metal Company
Crawford Sprinkler Supply Company
Crown Cork & Seal Company
Damar, Incorporated
Davidson-Kennedy Company
Delta Air Lines Maintenance Division
East Point Foundry
The Electric Autolite Company
General Outdoor Advertising Company
Gibson Metal Products Company
Grinnell Company
J. J. Machine Company
Jebco, Incorporated
Jones & Laughlin Steel Corporation
R. F. Knox Company
Larkin Coils, Incorporated
Lathem Time Recorder Company
Link-Belt Company
Lockheed Aircraft Corporation
Loxcreen Company, Incorporated
Martin Sprocket & Gear, Incorporated
Meadows Manufacturing Company
Moncrief Furnace Company
National Lead Company

Pioneer Heddle & Reed Company

Potter & Rayfield, Incorporated

John Rogers Company

Reynolds Metals Company

Scientific-Atlanta, Incorporated

Scripto, Incorporated

Shower Door Company of America

Simmons Plating Works, Incorporated

Southern Metal Treating Company

Southern Saw Service Company

Southern States Equipment Corporation

Square D Company

Stein Steel & Supply Company

The Tumpane Company, Incorporated

Walker Electric Company

Warren Company

Jervis B. Webb Company

Woodman Company

APPENDIX 2

Percentage Comparisons of Industrial Groups Between Atlanta and Balanced Metalworking Cities

SIC	USA	Atlanta	Lancaster-York	Grand Rapids	Dayton	Worcester	Indianapolis	Syracuse	Bridgeport	SIC	
25	1.5	4.0	4.0	10.3	.2	6.3	2.2	.4	.4	25	Metal furniture and fixtures
331	8.0	4.3	12.5			7.7	.3	5.4	2.0	331	Blast furnaces, steel works, rolling and finishing mills
332	2.6	1.6	3.1	7.2	2.9	2.0	4.2	2.0	1.1	332	Iron and steel foundries
333	1.2		.2						.7	333	Primary smelting and refining of nonferrous metals
334-5	2.3	2.9	.7	1.9		2.5	5.5	.2	8.8	334-5	Secondary smelting, refining, rolling, drawing, and extruding of nonferrous metals
336-9	2.1		.7	2.1	.7	3.8	4.7	1.8	1.3	336-9	Nonferrous foundries and miscellaneous primary metal industries
341	.9	1.6	.4				1.1	1.0		341	Metal cans
342	1.8	.3	2.5	5.3	.2	4.3	.3	1.2	7.2	342	Cutlery, hand tools and general hardware
343	1.1	.5	2.7	1.6	.5	.2	2.2	.4	.2	343	Heating apparatus (except electric) and plumbing fixtures
344	4.6	5.7	2.9	1.8	1.9	1.4	4.6	2.8	1.2	344	Fabricated structural metal products
345	1.0		1.3	.8	.5	3.8	.9	.2	1.3	345	Screw machining products, and bolts, nuts, screws, rivets and washers
346	1.8	.5	1.1	2.9	.2	3.6	1.4		2.5	346	Metal stampings
347	.6	.5		1.4	.1	.7	1.1	.2	.9	347	Coating, engraving and allied services
348	.9		7.4	.2	.2	2.3	.8		1.1	348	Miscellaneous fabricated wire products
349	1.8	1.3	2.5	1.1	1.0	.5	2.0	.2	2.1	349	Miscellaneous fabricated metal products
351-2-3	6.1	1.6	10.3	12.6	3.4	2.9	11.2	1.8	.4	351-2-3	Engines and turbines, farm, construction, mining and materials handling machinery and equipment
354	3.4	.5	3.6	4.0	8.5	17.4	1.9	2.4	4.6	354	Metalworking machinery and equipment
355	2.2	1.6	4.9	1.3	2.3	18.1	.5	1.0	2.5	355	Special industrial machinery
356	3.8	1.3	3.1	1.9	2.7	3.2	6.4	5.2	4.8	356	General industrial machinery and equipment
357	2.0			1.0	16.3	1.4		8.8	4.7	357	Office, computing and accounting machines
358	1.7	2.4	7.4	2.7	2.7		.2	16.3		358	Service industry machines
359	.9		.7	3.7	.3	.2	.8	.2	.9	359	Miscellaneous machinery, except electrical
361	2.5	3.2		.2	1.5		.9		1.3	361	Electric transmission and distribution equipment
362	3.3		.7	1.4	14.6	.2	.5		2.5	362	Electrical industrial apparatus
363	1.8		2.0	6.6	15.4			2.2	2.6	363	Household appliances
364	1.9		4.9			1.8	.2	6.6	7.4	364	Electric lighting and wiring equipment
365	1.4			1.3			.2	16.1	.4	365	Radio and television receiving sets, except communication types
366	3.6				.8		11.9	12.2	1.9	366	Communication equipment
367	4.0		8.5			.2	3.6	1.0	2.0	367	Electronic components and accessories
369	1.4	1.3	.2	.2			2.7	1.4	.3	369	Miscellaneous electrical machinery, equipment and supplies
371	10.0	24.3	.9	14.8	16.8		18.9	8.2	2.0	371	Motor vehicles and motor vehicle equipment
372	9.1	35.2	2.0		2.3	3.8	7.3		16.7	372	Aircraft and parts
373-4-9	2.7	.3	1.3	1.9	.3	.2				373-4-9	Ship and boat building, railroad and miscellaneous transportation equipment
38	3.4		4.0	5.8	.6	10.8		.6	8.0	38	Professional, scientific, and controlling instruments; photographic and optical goods; watches and clocks
39	2.8	4.6	3.6	3.9	2.9	2.9	1.4		6.4	39	Miscellaneous manufacturing industries